Editorial

Solar power and sustainable development

The United Nations have declared Sustainable Development Goals (SDGs) for 15 years, namely, for 2016–2030, after the end of 15 years of Millennium Development Goals (MDGs), which were meant to be achieved during 2000–2015. Out of 17 goals, listed as SDGs, three of them are significant in the context of solar power and its expansion so that its contribution to the power mix of the world, at large, becomes significant in the near future. These three SDGs are: to ensure access to affordable, reliable and sustainable energy for all; to combat climate change; and to revitalize global partnership for sustainable development.

Solar energy, if harnessed properly, can pave the way for sustainable – in fact, perpetual – source of energy for large population of the world, for large part of the year. The greater use of solar energy will reduce dependence on fossil fuels and, therefore, will be a big leap in combating climate change. All this is possible only when the countries of the world come together in a bid to develop partnership, both bilateral and multilateral.

A visible action has started in this direction with the formation of International Solar Alliance (ISA). This inter-governmental organization came into existence in December 2017 whose idea was conceived during Paris Climate meeting of 2015. ISA is headquartered in India. It held its first or Founding Conference in March 2018 in New Delhi, India. About 50 countries and development banks participated in the Conference. India and France were co-sponsors. The Conference did recognize the challenges ahead. The major challenge for the world community is to develop cost-effective technology and find affordable financial resources for the faster development of solar power.

The announcements made or intentions articulated in the Founding Conference, at the level of Heads of Governments and States, have to translate into concrete contracts between different business partners. Many countries, such as India, have abundance of solar radiation throughout the year. But to convert this radiation into usable power requires huge investments in technology and equipment. India has plans to generate 100 GW of solar power by 2022. Of this, it has already an installed capacity of 20 GW.

Since the financial needs are huge and big investors are not yet forthcoming to invest in this sector, challenges are big as one goes forward. ISA will have to work with public, private and multilateral bodies to facilitate financial and technology flows to solar rich countries that lack these resources.

The Paris Climate Accord targets include switching over to renewable energy in a big way, thus, reducing the fossil-fuel-based generation of electricity. A country like India is making visible progress towards this goal. If it is able to generate 100 GW of power from renewable resources by 2022, it will be ahead of Paris targets. The major problem for India, and for that matter, most developing countries, is to find the low cost financing for this ambitious, but a desirable goal. Hundreds of billions of dollars are required. Some possible ways are outlined here. The support has to come from public as well as private investors. The creation of Green Funds may help. These funds will be dedicated to financing renewable energy projects. In small projects, they could fully finance the capital costs. On the other hand, in the cases of big projects, they can provide working capital needs to private investors, while capital costs will be met by the private investors themselves. This kind of financing mix can give a certain level of comfort and confidence to private investors.

Financing apart, the issue of space that is needed to install solar panels is equally important. Large solar plants require a large land space. Naturally, fertile agricultural land cannot be used for this purpose. This can have serious consequences on food production,

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especially in the countries where the population density is high. India is one such country. As far as possible, fallow or less productive land will be a better option. Other option is to expand rooftop installations. This would require an intense campaign for households to understand the importance of solar energy. They need to internalize in their thinking that the solar power not only makes them independent with regard to their electricity needs but they also contribute to the larger cause of pollution control and cleaner environment. The households must be made to realize that the solar power works out cheaper in terms of life cycle costing even though it involves an initial capital investment. It may be easier to encourage businesses and other organizations to install solar panels on their roof tops.

Here, some past experience in a different international context and a different purpose may be useful to learn from. Some years back, an insurance body, namely, Multilateral Investment Guarantee Agency (MIGA) had been created, as part of the Word Bank Group, to provide insurance to the investors who would invest in other countries. This agency does not give finances directly but develops confidence in investors through risk insurance. It insures equity investment as well as loans against political risks. Political risks are broadly those risks which create uncertainty due to discriminatory political actions and issues like damage to property and personnel due to social strife, etc. A similar mechanism like MIGA may be put in place so that capital rich investors become more willing to take up solar power projects, while taking recourse to the insurance provided by a multilateral body. This kind of multilateral body can come into existence only though the efforts of ISA, being a multilateral grouping itself.

The academic researchers may like to develop quantitative and non-quantitative models to suggest ways to make it easy that large-scale and widespread use of solar power becomes a reality in the future.

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